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The Province of Alberta

IN THE MATTER OF "THE NATURAL GAS UTILITIES ACT"

—and—

IN THE MATTER OF an Enquiry into Scheme to be adopted for Gathering, Processing and Transmission of Natural Gas in Turner Valley

G. M. BLACKSTOCK, Esq., K.C., *Chairman*

Dr. E. H. BOOMER, F.C.I.C., *Commissioner*

Session:

CALGARY, Alberta April 9th, 1945.

VOLUME 20

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I N D E X

VOLUME 20

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April 9th, 1945.
9.30 A.M. Session

MR. CHAMBERS: I will call Mr. Edgar G. Hill.

EDGAR G. HILL, having been duly sworn, examined by Mr. Chambers, testified as follows:

Q Mr. Hill, you are an officer and director of Ford, Bacon & Davis Corporation of New York?

A Yes, sir.

Q What office do you hold in that company?

A I am Vice-President of Ford, Bacon & Davis Incorporated and I am a President of Ford, Bacon & Davis Construction Corporation.

Q Would you just outline for us briefly the nature of the activities of Ford, Bacon & Davis?

A Ford, Bacon & Davis Incorporated is a general engineering firm that has been in business in New York for over 50 years. It serves all branches of engineering service in Canada, the United States and Mexico and in the past 25 years has been dealing largely with Natural Gas and Oil Engineering.

Q That is in all parts of the United States.

A In all parts of the United States and Canada.

Q That is you do not only serve around the State of New York?

A No, sir, we serve industries in all parts of the States, Canada and Mexico.

Q Now you have visited Canada and particularly this Province on previous occasions, would you mind telling us in what connection?

A I first came up here in 1923 and made a study of the Edmonton situation with respect to natural gas and made a report on the feasibility of bringing natural gas into Edmonton. I came back to the Province again and built the natural gas

system that now supplies Edmonton. I lived in Edmonton until 1924, in September, when I returned to the United States. I have been back here since. I came back to Calgary in 1938 and made a valuation of what is now the Valley Pipeline Company.

Q And appeared before the McGillivray Commission?

A Yes, sir. Then in 1943, November, I came here and valued the natural gas division of the Royalite Oil Company which has now become the Madison Natural Gas Company Limited. I served this last month, February and March, in connection with that same work.

Q I understand since 1939 particularly your firm and you personally have had to do with various large construction projects dealing with pipelines. Can you just give us a summary of that briefly?

A My firm has been very active in natural gas and oil construction work as I said for the past 20 years, and in 1926 after I got back from Canada I built a pipeline for the Interstate Natural Gas Company Incorporated which runs from the big Munro gas field of Louisiana to Baton Rouge and New Orleans. I built a line from Amarillo, Texas to Denver in 1927 and I also took part in the construction of the Southern Natural Gas Company's property in 1929 and 1930. In the early 1930's we built, as contractors, a number of oil lines in these states, perhaps a dozen all told. Then in 1941, we built the system of the Plantation Pipeline Company which extends from Baton Rouge, Louisana to now Richmond, Virginia. That is a very large system and comprises over 1500 miles of line. In 1943 I had charge of the construction of 115 miles of 20 inch line from Texas and into Ohio, for the East Star Gas Company. In 1941 and 1942 I was engaged primarily on work for the Government, that is my firm was. One construction work was in

Bermuda and that was for the Army, a big air base. The other was for ordinance work in Texas, a big T. & T. Plant and those are my two principal departures from the oil and gas business in the way of construction. During the last year, 1944, we have built a number of gas compressing stations in the Munro, Louisiana gas field very similar in type to those at Turner Valley and have built a number of piplines in the field. We have an office in Munro and do general construction work out of that office. That office is the office of our construction company of which I am the President. I have done a great deal of appraisal work for both private companies and municipalities and in 1944 I appraised for the city of St. Petersburg, Florida, the natural gas plant there. That was city-owned. I have not appeared before a court or a commission to any extent other than my appearances here since the middle of 1930's.

Q Now in 1943 you told us you were up here to make an appraisal of certain plant and equipment of the Royalite Oil Company Limited.

A Yes, sir.

Q You made that appraisal in the Fall of 1943.

A In November, 1943.

Q And you have prepared a report giving the result of your appraisal?

A Yes, sir.

Q Have you got that report?

A Yes, I have.

REPORT FILED BY EDGAR G. HILL
NOW MARKED EXHIBIT 59.

MR. HARVIE: That is M-6?

MR. CHAMBERS: M-6.

Q Mr. Hill, I will ask you to read the report and as you go along, if there are any comments you desire to make will you do so without my asking you any questions?

A Pages 1 and 2 of the report comprise the letter of transmittal and it reads as follows:

FORD, BACON & DAVIS
Incorporated

ENGINEERS

39 Broadway
New York
6

New York, January 15, 1945

Royalite Oil Company, Ltd.,
Calgary, Alberta, Canada

Dear Sirs:

As requested we have made and submit to you herewith a valuation of the Natural Gas Division of your Company located in the Turner Valley field.

The property valued comprises the land, rights of way, gas gathering lines and appurtenances, compressor stations, gas purifying plant, steam plant, power plant, automotive equipment and certain miscellaneous structures and equipment used by the Division.

The material and labor prices used in the valuation are those current in the territory at November 15, 1943. However, in the application of labor costs, no effect was given to the relative inefficiency of labor due to war -time conditions, so that while the valuation does reflect current levels of material costs and construction labor wage scales, it does not provide for those increased labor costs which, while

a reality today, should disappear or diminish after the end of the war, even though wage levels remain as at present.

Right here I want to say that my valuation is intended to reflect the cost of the property had it been built under prices for material and labor wage scales which were current in the territory here in the middle of November, 1943 assuming that the property was built with the same efficiency of labor that we were used to before the war. That is, the valuation does not give effect to the costs which we all know exist which are due to the manpower situation, the fact that in building construction today the performance per man-hour of a man today is not what it was pre-war. I have not taken that into account in my valuation.

We have also included in this report our opinion as to the going value of the Division when considered as a separate business. The Division has been transferred to the ownership of Madison Natural Gas Company, Ltd., which Company, we understand, will operate as a public utility.

The report also contains our estimate of the reasonable working capital requirements of the new public utility company, together with a statement of the principles which we believe should be followed in determining the annual allowance for amortization of capital, which allowance necessarily will be included in any proper computation of the cost of the service which the new company is to provide in gathering, compressing and purifying the remaining gas reserves in the Turner Valley Field.

Our valuation is summarized as follows:

	As of Nov. 15, 1943.
Reproduction Cost New (Including working capital and going value)	$2,958,216
Reproduction Cost New Less depreciation	2,487,704

The methods used in preparing the valuation and the detailed itemization thereof, are set forth in the attached report.

Very truly yours,

(signed) FORD, BACON & DAVIS, Inc.

Now the report starts on page 4.

R E P O R T

ROYALITE OIL COMPANY, LIMITED
CALGARY, ALBERTA, CANADA

NATURAL GAS DIVISION

AS OF NOVEMBER 15, 1943

JANUARY 15, 1945.

As requested, Ford, Bacon & Davis, Inc. (hereinafter referred to as the Engineers) has made a valuation of the physical property of the Natural Gas Division of the Royalite Oil Company, Ltd. (hereinafter referred to as the Company), located in the Turner Valley Field in Canada, together with an estimate of the working capital requirements of the Division considered as a separate company, and an estimate of its going value.

DESCRIPTION OF PROPERTY

The property of the Natural Gas Division included herein comprises a gas gathering system containing 57 miles

of steel pipe averaging 6 inches nominal diameter, and its appurtenances such as heaters, heating boilers, and meters, two compressor stations designated as No. 1 and No. 3, containing respectively 2,400 and 1,360 horse-power (sea level rating) of gas engine driven gas compressors, a gas purifying and dehydrating plant of which a part employs the Seaboard process and a part the Girbotol process of desulphurization, a power house containing 624 kva generating capacity, gas engine driven, a steam boiler plant containing 18 boilers totalling 2,164 boiler horsepower, certain power and lighting circuits and certain steam and hot water return lines appurtenant to the power house and steam plant respectively, a number of trucks and automobiles, certain miscellaneous structures and equipment, and the land and rights of way owned in fee upon which these facilities have been built. All of these facilities are presently used by the Natural Gas Division or were in process of construction for use prior to December 31, 1943.

(Go to page 1537.)

INVENTORIES

Preparation and Checking

Inventories of the property of the Division were taken by Company employees from Company records. The measurements of pipe were as recorded by the Engineering Department on its section maps, from actual chainage after completion. It is the practice of the Company to keep its pipe line maps up to date by recording on them changes that occur due to taking up old lines and laying of new lines. The Engineers were furnished with these map records and made spot-checks of the footage recorded on individual section maps to the extent necessary to demonstrate the reliability of the records. In addition, the pipe disclosed at the inspection points furnished further proof of the existence of the lines at the location and of the size shown on the maps.

Inventories of above-ground mechanical equipment were furnished to the Engineers who used them as checking sheets. Equipment items of any consequence not actually seen by the Engineers were not included in the valuation, except a few items of work in progress for which actual purchase or cost records were available.

The inventories, and consequently the valuation, include a number of work orders which were under construction on November 15, 1943, but were in such an advanced stage of construction as to practically insure completion by December 31, 1943. These have been included at estimated cost when completed.

Pricing

Prices of mechanical equipment items are either as obtained from Company vouchers covering recent purchases of similar items, by application of trend factors to known purchase prices in earlier years, or by consultation with suppliers.

I may say there that I took the prices of the principal mechanical items which came from the United States by consultations with the suppliers after I returned to New York in November 1943. I consulted with engineers of the Dominion Bridge Company here in Calgary as to the price of the steel plate work and I have the cost records of the Company showing the prices paid for most of the mechanical items as revealed by their cost cards and I used all that information in getting at my material prices.

Pipe prices are as shown by the most recent carload lot purchases made by the Company, and give effect to all discounts for quantity and prompt payment.

Q MR. CHAMBERS: Mr. Hill, when you talk about the most recent carload lots you are talking about prices as revealed by the company records?

A The pipe prices I used are those which the Company had paid in 1943 as late as I could get them and while I could not get the price, - where the Company had not bought that particular size, - the price of any particular size in 1943 but they had bought other sizes and I used the same price per ton for the size which they had not bought as the invoices showed they had paid for what they had bought.

Labor costs are based on present wage scales paid by the Company in the Turner Valley field, assuming prewar labor

performance and normal prewar overtime payment policies. No weight was given to excess labor costs due to abnormal overtime.

Now in my experience in the past three years in construction, the cost, the high cost, there have been costs that have been very high, particularly during this war work, on account of the hurry in which the work was done and consequent payments of overtime to workmen. That overtime in some cases was work and in some cases it was not for work, in many cases it was necessary to pay very high weekly rates in order to get the men to work, so my valuation does not include any of those elements of work time, higher costs.

The unit costs used in the valuation include cost of purchasing and warehousing, truck transportation from nearest railroad siding to job site, timekeeping, and foremen's supervision. They do not include any pipe line survey costs or property damage losses, or all costs of engineering and design, nor do they include any allowance for adminstration or legal costs during construction, taxes and interest during construction, or contractor's profit except that in the case of pipe line construction which was assumed would be done by a pipe line contractor, a contractor's fee of 10 per cent of his construction cost is included in the unit prices. All other construction was assumed to be done by Company forces without profit.

In line with current practice in the United States, all items of property except land were considered as subject to depreciation. When the gas in the Turner Valley field has been exhausted, the land occupied by the compressor stations and the other facilities will no longer have value to its owner and will have been rendered useless for agriculture or grazing. The

result will be that unless the cost of the land is taken into account in fixing the annual allowance for amortization of capital, the Company will never recover it.

I want to explain that. This property was built by Company forces, piecemeal. In making the reproduction cost estimates one has to assume a reasonably short time for the construction of the property as a whole and the Company is not equipped, in its construction Department, equipped with the equipment or personnel to build a property of this size in a year say, so I used prices for pipe line construction costs which I, as a contractor, feel certain can be realized if the property were built by a contractor and he would content himself with a 10 percent profit. Now that does not mean that a contractor from the United States could come in and do the work for what I have figured. He could not, but if the job were to be built in a year I am certain that the Company could arrange to get the work done for the prices which I have estimated in this valuation. There is no contractor's profit allowed anywhere in the estimate for the construction other than pipe line, that all was to be done by Company workmen because I was of the opinion that the Company could organize its own construction department to build all of these things and contract the pipe line and get it done in a year.

(a) Pipe Lines

A thorough examination was made of the pipe lines to determine their actual physical condition. The Engineers picked at random 34 locations on the gathering line system map without any prior knowledge of the soil conditions or the age of the pipe at these locations. These locations covered all areas and presumably would furnish a fair sampling

of average subsoil conditions to be encountered.

Inspection holes were dug at these locations and at each the pipe was uncovered, the coating removed and the pipe cleaned for a length of 36 inches. This 36-inch sample was then inspected to discover what loss of value the pipe had suffered due to external corrosion.

Of the 34 samples inspected, 24 showed no evidence of any corrosive action of the soil. Only 9 samples showed pitting or corrosion sufficient to be measurable by a depth gauge, and of these the deepest pit discovered had penetrated one-quarter of the pipe wall thickness. In explanation of this remarkable showing, it is necessary to state that all of the buried pipe had been protected when laid with a hot asphalt coating and that practically all of the pipe laid since 1937 had two applications of hot asphalt with a burlap or cheesecloth wrapper wound spirally over the pipe between the two layers of asphalt. It is also a fact that when a field line is taken up, all pipe not in perfect condition is culled out and not relaid. The result of these circumstances is a field gathering line system practically equal to new at this time.

The Engineers had opportunities to examine the inside of several 6-inch, 8-inch and 10-inch lines which had been in service for several years. They had been recently taken up and were in process of being relaid at other locations. In no case was any internal corrosion evident. None should occur unless water is taken into the lines with the gas, which is improbable as separators designed to remove all water which is in liquid phase are provided at the wells and Turner Valley is not a water drive field, the gas cap being underlaid with an oil reservoir.

The results of the pipe line inspections were tabulated and the observed condition of both pipe and coating weighed into a per cent condition for each size of pipe, based on costs of each.

A further deduction for unobserved depreciation of one per cent was made on each size of pipe in the belief that about two per cent of the 57 miles of pipe in the system was situated in creeks, sloughs, or other inaccessible locations and might have shown 50 per cent depreciation on the average, had it been inspected. The result was a determination of accrued physical depreciation of 5.52 per cent in the gas gathering lines, as a weighted average. As the lines are, on the average, probably about seven years old, they have an indicated life expectancy of fifty years or more.

Actually in this valuation the allowance was normal. I think the total amount of land included in the valuation was $640 but I included that figure because I have noticed that in some recent cases in the United States land is ignored for the amortization allowance because it was assumed that the owner would obtain what the land had cost him when he sold the land after he was through with it, when the business had been finished. I have had enough experience with land that has been used for compressor stations and other construction, to know that that is not so. The foundations which the owner has to put on the land destroys its value for other purposes. It would cost more to remove the foundations than the land is worth. I want to call your attention to that, that the land in Turner Valley had a normal value. The cost of that land will have to be covered through amortization and not from a sale, because it could not be sold for anything like the value which I would

place on it in my opinion.

That means that the pipe line system as a whole should outlast the field, assuming that the remaining life is 30 years or there abouts. The pipe lines are when they are laid, they are protected with the coating that I talked about and in addition the soil of Turner Valley is a glacial drift. It is a mixture of sand and stone which is very easy on pipe and in my opinion the pipe is that part of the system which has the longest indicated life of any of it because of the way it is laid and because of the nature of the soil.

(b) Compressor Stations

Station No. I was built in 1938 and enlarged by the addition of a fourth 600-horsepower unit in 1941. It is of modern design and construction. The compressors are of the angle type with V-type power cylinders operating at the comparatively high rotative speed of 300 rpm. They are a recent development commercially and consequently there is no experience on which to base more than an opinion as to how they will stand up in continuous service as compared to the slower speed compressor the performance of which has been time tested.

In valuing this station, the Engineers have assumed that the station as a whole will have a useful life of 40 years, as is now reasonably indicated by the performance of the main units to date. This was what was written two years ago, very nearly two years ago, a year and a half ago. Since that time the result in connection with the same type of engine in the United States in my opinion, and of which I have knowledge, has been such as to warrant me in making no change, in warranting me not making any change, in the lifetime of 40 years of these stations

for Turner Valley. High speed engines are reasonably satisfactory as to their operation and their cost. We know that the slower type of gas compressor has indicated a life of more than 40 years because the stations which were built about 1910 are still functioning about as well as they ever did so we do not know what estimated life yet, - we do not know yet what estimated life to put on the horizontal slow speed gas compressor because we have not had enough experience with that type of engine, which was developed in 1900, to give us a basis for that conclusion. We do know the estimated life of the high speed V-Type compressor should not be as great as that of the older fashioned slow speed horizontal unit.

Station No.3 is not quite completed. It contains two new 600-horsepower units similar to those at Station No.I, and two small units transferred from the former Station No.2 now dismantled. The two 600-horsepower units have an indicated life expectancy of 40 years. The two small units may need replacement earlier but should be good for 25 or 30 years. The buildings should last as long as the machinery. And the buildings are steel construction, steel framed, with corrugated iron and wooden sides. They are kept painted and will have, in this climate, will have a long life. They undoubtedly will last as long as the machinery or possibly longer and they will not be needed after the machinery is worn out and the gas has gone out.

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Edgar G.Hill,
Dir.Ex. by Mr. Chambers.

(c) Purifying Plant

Part of this plant was built in 1926, part in 1935 and 1939 and part in 1942 and 1943. The older portion of the plant employs the Seaboard process of desulphurization, using a soda ash solution as a scrubbing agent. Four of the present scrubber towers were installed in 1935 and one in 1939. In 1942 a Girbotol process plant was built, using a different desulphurization agent, and two of the five scrubber towers were converted to this process, being redesigned in 1942-1943 to act also as dehydrators, with diethylene glycol as the dehydrating medium.

The Girbotol plant is a recent development, and this plant in Turner Valley is the first to be built to dehydrate large volumes of natural gas for sale to the public. The desulphurizing agent used is known as MEA, Mono-etholol-amine. That process has been developed by the Girbotol Corporation of Louisville. It is a patented process which is remarkably successful in removing all or substantially all, that is all the sulphur compounds in natural gas. It removes them very efficiently. That plant was built in 1942 and in '43 changes were made to it based on experience with some that we had and the position of the trays in two of the towers, a change was made, to permit of dehydration at the same time. That is, not only are the sulphur compounds taken out of the gas but the water vapour is taken out, so that the gas in the Girbotol plant is sulphur free and water free. The reason for taking out the water is to permit it being handled in pipelines without the danger of the formation of gas hydrates. That is apt to occur at high pressure, and at temperatures that

are well above the temperature at which the gas flows into the pipe line. In valuing this plant, the Engineers have given full effect to the probable service expectancy of the units comprising the Seaboard process equipment.

Both of these plants are used concurrently. Most of the gas if processed by the Girbotol equipment but when the Girbotol equipment does not have full spare units, and the Seaboard plant is able to take the whole load, or substantially the whole load in case the Girbotol is out for any reason, the efficiency of the Seaboard plant, which is the old copper process, in being a desulphurizing agent, is not as efficient, and does not remove as much of the sulphur as the Girbotol plant, and does not remove any water, but it was the best plant, in fact, it was the only type of plant commercially available before the Girbotol plant. The Girbotol process was developed through the past four or five years.

The scrubber towers were valued on the basis of their life expectancy as disclosed by internal corrosion measurements taken periodically.

Those measurements are taken by the Inspectors of the Alberta Provincial Boiler Inspection Department. They test all those pressures in this plant every year, and I had access to those measurements and my conclusions as to the life of these vessels are based largely on that.

The three towers built by Foster Wheeler Company on account of different design of riveted joints, have a much greater probable useful life than do the two Alco Products towers. All five towers, however, should outlast the

process equipment, and they can be used with either process.

The Girbotol process equipment is all practically new and has been so valued. It has a life expectancy of 25 or 30 years with proper care and maintenance.

(d) Steam Plant

This plant contains six old horizontal return tubular boilers operating at 100 pounds pressure, and 12 relatively new high-pressure oil-country-type boilers good for 250 pounds pressure, and operating at 160 pounds. But since this report was written the steam pressure on those boilers has been stepped up to 235 to 240 pounds on account of the additions made to the gasoline plant and are now operating at that pressure, and of course, are inspected periodically by the Alberta Boiler Inspection Department.

The six horizontal return tubular boilers have not more than ten years of remaining service life and have been so valued. The high-pressure boilers should be good for 25 to 30 years, as they can be used on low-pressure service after they are no longer useful at high pressure. The boiler feed pumps of the high-pressure, mud-hog type are good for 30 to 40 years or more at the relatively light service they are now called upon to perform as compared with that for which they were designed. The two Weir marine type boiler feed pumps are only seven years old and have about the same life expectancy as the others.

That is, the boiler feed pumps are all working very easily and will last a long time, because they are

able to operate against much higher pressures than those which they are called upon to operate under now.

The building should have about the same service life as the equipment.

(e) Power Plant

This plant is equipped with four vertical gas engines, 185 horsepower, 3-cylinder, 4-cycle, each driving a 156 kva alternating current generator, at 277 rpm. Three units were installed new in 1929 and a fourth in 1931. They have a future life expectancy of 25 to 30 years barring accident and have been so valued. The switchboard and its equipment has at least an equal expectancy. The building will last as long as the equipment, assuming proper painting and general maintenance.

(f) Gas Heaters and Boilers.

These heaters and boilers are out on the gathering system and heat the gas so that hydrates will not form after the gas gets through the Girbotol plant and much of that moisture is gone. It is necessary to heat the gas in the field to prevent the formation of hydrates which, if they form, will tend to clog up the lines.

The heaters are shop made, of steel pipe and tubing. The boilers are old medium-pressure drilling boilers now operating at 20 pounds pressure, and while most of them are quite old they apparently have a considerable future service life at this low pressure. They have been given a low valuation on account of their age.

(g) Automotive Equipment

Depreciation on this equipment has been computed at 20 per cent for the first year and 10 per cent per year thereafter except for the fire engine which has been but little used.

TRANSPORTATION COSTS

The valuation contains an allowance representing the estimated cost of transporting workmen to and from the job in motor vehicles operated by the Company. The Company now follows this practice as an alternative to maintaining construction camps and commissaries.

The allowance is divided between the principal construction accounts in approximate proportion to their estimated overall costs. The unit prices for pipe line construction likewise include such an allowance.

We found that in 1944 the Company not only transported workmen but maintained a commissary at Turner Valley during this construction and I have not included anything for the commissary loss. I know from personal experience that in 1943 it was necessary to do the work they were doing to transport men because there were not enough men available close by the work. I found that condition existed at Turner Valley, and the Company actually was transporting those men in buses during 1943 because of the tire situation for one thing, and the scarcity of men for another reason.

GENERAL OVERHEAD COSTS

As previously stated herein, general overhead costs, unavoidable in the construction of a property of

this nature, have not been included in the unit prices for equipment, materials or labour. These general overhead costs include:

Administration during Construction

Legal Expenses during Construction

Engineering and Supervision during Construction

Interest during Construction

Insurance and Taxes during Construction

Damages in excess of Insurance during Construction

It has been the practice of the Company in the past not to capitalize such costs except that in some cases salaries of draftsmen and field engineers were capitalized. Book costs of construction therefore do not reflect them except to a very minor extent.

To construct a property of the kind and size of that herein under discussion in a year's time, will require the full time of a general manager, a field superintendent and a field supervisory and accounting organization, set up for the purpose. The costs of such an administrative organization in a job of this size generally amount to about two per cent of its cost, including salaries and expenses.

The overall costs of engineering design and supervision would normally be equivalent to a minimum of three per cent; legal services, insurance, taxes and damages during construction to one per cent, and interest during construction would amount to three per cent, making a total general overhead cost equivalent to 9 per cent of construction costs exclusive of general overheads. This low overhead cost presupposes a parent organization

able to assign competent men to the work without the necessity of shopping around for them, and possessing sufficient credit to permit the new project to secure its construction funds without going into the financial markets.

Nine per cent of the cost is the lowest allowance for general overhead that I have ever seen used in a valuation. In my work that I have done for Companies which are sponsored by the same general type of organization as controlled by Royalite, I found that the costs were lower than those which we did for companies not so powerfully sponsored, and that overhead on the low cost jobs were about half of those on the others, and I reflected that experience and that knowledge in the allowance of only 9 per cent in this case.

It must be pointed out that the costs which have been grouped under the caption of "General Overhead Costs" are costs which are incurred during the construction of the property and cease when the property has been constructed and put into operation. They are entirely apart from any of the factors which have been considered in making the estimate of going value which is contained herein and no duplication therefore exists in the estimates of "General Overhead Costs" and "Going Value".

RECOMMENDED BASIS FOR CALCULATING ANNUAL AMORTIZATION OF CAPITAL

As is discussed previously in this report in the paragraphs dealing with Accrued Depreciation, most of the physical property of the Natural Gas Division has a life expectancy of 25 years or more at this time, which in the case of a manufacturing establishment would indicate a

proper annual charge for depreciation of not over 4 per cent. This instance, however, deals with a wasting asset, natural gas, in a single field, and regardless of how long the physical assets are capable of functioning, they will function and have value only so long as natural gas in commercial quantities is available to them in Turner Valley. The potentially marketable gas reserve in Turner Valley is susceptible of quite accurate calculations, as set out in the report of Thomas R. Weymouth, dated November 22nd, 1943, addressed to the Petroleum and Natural Gas and Conservation Board.

It is not possible to predict accurately, however, the rate at which the gas will be withdrawn from year to year. It is known that it will cost more to get the last 50 billion feet of gas out of the field than the first 50 billion, because as the gas is withdrawn the reservoir pressure declines in proportion, requiring more investment in wells and machinery and consequent higher operating cost. If in setting aside a sum of money each year to amortize capital, it is done on the basis of so much per unit of gas withdrawn, the element of time, which is the uncertain factor, is eliminated. This method as opposed to the straight-line method, has several advantages and no disadvantages, assuming that the reserves are determinable with reasonable accuracy, as is the case in Turner Valley. When withdrawals are at a high rate, as at present, the annual accrual to amortization reserve will be large, and when the reverse is true it will be low. Capital can thus be retired rapidly in high-income years, more slowly in bad times.

If the straight-line basis should be employed, requiring an equal sum of money to be set aside each year, profits would be exaggerated in good years, while in bad years losses might result which would not be the case had the unit method been employed from the start, and likewise the cost of recovery of the last of the reserve might be prohibitively high.

The unit method has the great advantages of levelling out profits and permitting capital to be retired proportionately as the gas reserve is depleted.

The unit would be determined by dividing the rate base less estimated salvage, by the amount of marketable gas remaining in the field at the time of calculation.

I think that is self-explanatory.

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Recommended Plan for a Diminishing Rate Base

Regardless of the basis upon which the annual amortization of capital is computed, the capital of the new company should be periodically reduced by the use of the amortization reserve. At regular intervals, say every three years, it would be advisable that the operations of the new company be reviewed and the amount in the reserve, less a reasonable provision for the cost of plant extensions necessary in the near future, be then distributed to the stockholders as a special liquidating dividend. Assuming that the new company is a public utility, any such return of capital would at the same time serve to reduce the rate base.

At each review, a new rate base should be determined by adding to the previous rate base the cost of any plant additions made during the preceding period that had not already been included therein and subtracting therefrom any liquidating dividend paid.

The gas reserve situation should also be studied at each review, and a new amortization unit for the following rate period computed by dividing the newly fixed rate base less salvage, by the remaining reserve existing at the time.

Under this simple plan, no complicated retirement or depreciation accounting would be necessary for rate-making purposes. Its adoption would reduce the risk inherent in the business and if adopted and adhered to consistently, it would go a long way toward assuring gas consumers of a long-time gas supply at low average cost.

WORKING CAPITAL

The annual operating expenses of the new Company, excluding income taxes, are estimated by the Company officials

at approximately $800,000. per year, for the near future.

Based on this estimate, cash working capital requirements are estimated by the Engineers at $100,000., which is equivalent to one-eighth of the estimated annual operating expenses.

The inventory of materials and supplies, repair parts and chemicals necessary has been prepared by the Company and checked by the Engineers and amounts to about $90,000. in value. This inventory includes the requirements for present and immediate future operations. The sum of the cash requirements and the inventory valuation is $190,000, which is believed to closely approximate the working capital requirements of the new company.

With respect to the working capital of $190,000., there is included approximately $40,000 for the cost of gas to be purchased in the field. If that $40,000 does not need to be paid until after the Company has received the payment which it is to receive each month for the gas it sells the working capital requirements will be reduced. I understand that at present the two days coincide, that is the money is supposed to be received from the Gas Company on a certain date and payment made to the gas supplier on the same date. If that arrangement could be modified to permit the Company to wait a day or two after it receives its money before it has to pay for its gas then the working capital requirements would be less than $190,000. I would judge it would be around $150,000.

Q THE CHAIRMAN: Would that have the effect of requiring the Gas Company to increase its working capital?

A No. It is merely a change in the requirements, that is at

present the two dates coincide and if one or two days after the Gas Company pays, as they are paying now, if the Madison Company had to pay a day or two later then they would not require so much working capital, and I do not think it would mean that the Gas Company would require any more working capital.

GOING VALUE

The Natural Gas Division of the Royalite Oil Company, Ltd. has been in successful operation since prior to 1927. Until about the first of the year 1944 it was a part of production and gathering facilities of the Royalite Oil Company, Ltd. in the Turner Valley Field, but as of that date it was transferred to a new company known as the Madison Natural Gas Company, Ltd., which operates as a public utility under the laws of the Province of Alberta.

It has always enjoyed the benefit of the services and advice of the officers of Royalite's parent, Imperial Oil Ltd., in connection with its engineering and construction problems, which services have been given without cost to it. It has also enjoyed the purchasing power of its parent and still enjoys it, and in the construction cost estimates there is not included anything for discount on securities because no discount was ever necessary.

The Madison Natural Gas Company, Ltd. as now constituted obtains the services of highly qualified and experienced management, which consists of men of many years' experience in the service of Imperial Oil, Ltd., or its subsidiaries on a part-time cost basis because these men are able through the concentration of Royalite's activities in Calgary to direct the Madison Company's affairs without spending all

of their time in such direction, and there is therefore charged against Madison's operations only a part of the salaries of these experienced men.

All materials are bought with full knowledge of markets and prices by taking advantage of the purchasing power and market knowledge of the parent company. This situation results in lowered construction cost and in operating expenses less than would be necessary were the Company not so powerfully sponsored.

The Engineers are familiar with the actual general overhead construction costs of natural gas properties which have been built without the strong backing which this property has enjoyed and know that such properties do not secure their construction funds at par, as securities sold to the public for the construction of a project of this kind, which is not sponsored by a parent whose credit is of the highest, must be sold through security dealers whose efforts and risk in the sale of such securities must be paid for by the issuer of the securities, through a discount in their price.

It is very often the case that engineering and construction mistakes are made by new concerns which lack experience in the business, which mistakes are expensive to rectify, or if not rectified, cause increased operating expenses. No such mistakes have occurred in the construction of this Company's property.

For these reasons the value as a going concern of the property of the Division is, in the opinion of the Engineers, greater than the sum arrived at by adding together the depreciated reproduction costs of its various elements, by at least $200,000.

This going value is my judgment of the increment and additional value which this company enjoys because it has been built and operated as a subsidiary of a very sound concern, Imperial Oil Company. Because its construction costs and its operating expenses are in my judgment less than they would have been had the Company not had the Imperial Oil Limited as a parent. I have studied the books of accounts of construction costs of this Company very thoroughly and I do not find any case wherever there has been made any charge for the services of officers and engineers of the parent. It has not happened in the past and it does not happen today. The Company gets its money for construction at par. It does not make mistakes because it has men running it that have had years of experience in similar businesses elsewhere. I think that if this company were not so powerfully sponsored a fair-minded engineer would find that it would have cost more than it did. I do not believe that the public is entitled to all the benefits of that type of sponsorship. I think in fairness a reviewing board that fixes the rates on which this company is to operate should take cognizance of the fact that the company has been built at a low cost and is operated cheaply and effectively on account of the policies adopted by the people who control it. Now that is the end of the report.

Q MR. CHAMBERS: Would you deal with the statements about the accounts themselves?

A Yes, I am going to. On page 22 I have summarized the valuation by accounts. I have set a number of classifications of properties and have set opposite each classification my estimate of the estimated cost of reproduction new and

depreciated as of November 15th, 1943. The first classification is land. There are approximately 18 acres of land involved and I have valued that at $35.00 an acre. I know that is more than farm land is worth in the area but this land is located on the banks of the river at a proper point for getting water from it and returning the water to it after it has been used in the plant. I think that land if the company were to buy it would cost not less than $630.00, on November 15th, 1943. Actually the Company would of course have paid far more than that had it been required to get that land because that land is well located for its purposes. However I put a valuation on it which I think is reasonable.

Rights of way are taken from the company's books. I studied the company's books account on these rights of way and find that there was $3,415.00 spent to secure the rights of way. A large part of these pipe lines are located or a part of the lines are located on road allowances. But the Company had invested $3.415.00 in its rights of way and I did not change that investment because I knew of no better way to value it than take what it cost. Rights of way are matters of negotiation in each case and you pay what you have to pay or make a trade with the owner for the right.

Gas gathering lines. I made a detailed estimate of the cost of those lines and meant to give it to Mr. Biddison when I was here last but it was being typed at the time and I was not able to do it. I left before it was completed. I have copies now and would be very glad to give them to anybody who is interested.

Q Have you got a couple of copies there. I am not putting it in as an Exhibit unless the Board wants it.

MR. HARVIE: Have you got an extra copy Mr. Chambers?

MR. CHAMBERS: It was done primarily to make that available for the other engineers, for their own information. But if the Board wants it - -

THE CHAIRMAN: It will be an extension of the working papers for these final results that are shown on pages 26 and 27 of Exhibit 59.

Q MR. CHAMBERS: Have you another copy available?

A I do not have another copy with me, I am sorry. I could easily make some more. Material and construction costs are handled separately in the estimate. I can say that for six inch, nineteen pound welded lines the price of materials is $1.52½ and the price of labour and construction costs 53.35 cents a foot, making a total cost of $2.06 a foot, or a little less than $11,000 a mile. The total estimated reproduction cost new of the pipe line system is $599,384.00 and cost less depreciation as revealed by inspection is $565,551.00, covering the 57 miles that was in existence in November 1933. The average size of that line is about six inch. You will get from that footage of smaller lines and footage of larger lines as well as considerable footage of six inch line included in the inventory. I found 18,000 feet of pipe laid, two lines laid in one ditch and I made a deduction on that account for the estimated price of that size of pipe. The prices I used for pricing this pipe were less than those which the company's engineers gave me as being the prices they were currently using in 1943 for estimating the cost of new lines. I felt that the reason their prices were higher than mine was because they figured on piecemeal construction, say two or three miles at a time and I figured

on building the 57 miles during one operation. So the prices I have used were much less than the company paid in 1944, when it contracted some of these lines in 1944 to an American contractor.

(Go to Page 1562)

There was a reason for that, the Company did not have the facilities nor the men to build them in the time necessary.

The next account the next property account, that is on page 28: There are 32 heaters, all substantially alike, and one unit is larger, no, one is smaller, no, it is a larger heater, one heater is larger with a value of two standard heaters. Those heaters were all made in the Company's shops. They are made of pipe with two bundles inside made of 2 inch pipe and they are set on pipe standards, up in the air, and legged with pipe covering, asbestos pipe covering, and canvas covered. The prices which I have used are taken from the Company's recent cost experiences in 1943.

There are 19 boilers to furnish steam to these heaters. They are old drilling boilers. They now operate at a 20 pound pressure and will operate at that pressure for many years and I have priced them on that basis, that is a boiler that costs $2000., I have priced it at $800. I took it at 40% of the estimated cost new.

The boiler houses. There are 19 boiler houses. I have priced them at $325. a piece, new, and have depreciated them to 60%. The boiler houses are simply metal covered buildings, 20 by 15 feet and 18 feet high on the average. They look pretty tough because they are made of second-hand tin, second-hand galvanized iron, but they are adequate for their purposes and I think I have valued them conservatively.

The next account is the compressor stations. The No.I station contains 2400 horsepower. It contained that horsepower when I appraised it and my appraisal of that station works out at a little less than $150. a horsepower,

which is about what it would cost today in the States to build that kind of station. In 1943 that type of station in the States could be built for about $125. per horsepower or there abouts. The reason for the additional cost in this country is the fact that the machinery has to come from the United States because it is not built in this country and a compressor that cost $50 a horsepower in the United States costs about $75. a horsepower, nearly that, $73. or $75. a horsepower, delivered in Turner Valley.

No.3 Station was not completed when I appraised it. It was built in 1943 and finished in 1944, and added to again in the last part of 1944 but I have appraised it as I saw it in 1943 and it contains, - I will get that horsepower for you, - 1360 horsepower. I appraised that station at about the same price per horsepower as the No.I Station. I am very familar with the construction costs of stations such as these because they are built by ourselves continually for clients in the States and I will say that these stations were built economically and they are generally well designed and I think will last as long as the field is operating.

The next account is the gas purifiers, the gas purifier or scrubbing plant and that is a large account, it amounts to almost seven hundred thousand dollars with five hundred thousand dollars of equipment. In appraising it I very carefully reviewed the book cost and I ...

Q MR. STEER: What was that last statement you said?

A In appraising it I very carefully reviewed the book cost and I accepted the book of the Girbotol Plant which was completed in 1942 or 1943 and used that practically without

change.

The Seaboard Plant I estimated the reproduction cost on a basis of the cost there on the Company's record. Generally speaking my appraised figure is about 25% more than the plant has shown to have cost by the books, on the books.

Q MR. STEER: I am sorry I did not get that either?

A I appraised the Seaboard Plant at approximately 25% more than the book cost. It was built between 1926 and 1939 and in my judgment the price index would warrant the addition of 25% of the book cost which the Company's records show they spent. That should not apply uniformally to every part of the construction but it works out at about that in the total. Now I depreciated the Seaboard Plant about 50% on the theory that it would have a useful life of about 15 years from November 15, 1943.

Q THE CHAIRMAN: On what page will that be found?

A It is on page 46. It starts on page 45, and I am sorry, I do not have the various equipment items marked, whether they are Seaboard or Girbotol.

Q MR. STEER: How long would it take you to do that?

A Not very long. I can do it.

Q MR. CHAMBERS: You could do it by tomorrow morning?

A Oh yes, I could have it by tomorrow morning. I know every item, where it is and what it does, and it is quite simple to do that.

Q THE CHAIRMAN: Would you not save time if you went over it now, Mr. Hill?

A There are a lot of items but I could.

Q MR. STEER: I think for the purposes of any cross-

examination which I may have I will need them?

A Yes, I can do it.

Q THE CHAIRMAN: You can do it right now?

A I can make a Table and bring it in tomorrow morning showing a separation of the purifying plants between the two plants, or I can do it now.

Q It would not take long to do it now?

A Well it is fairly long, I can do it now. It is a little easier if I could sit down at a Table.

Q I am only thinking of this, that we might reach cross-examination on that point this morning and I do not want to have to adjourn?

A Well I can separate them.

Q Page 46?

A Page 46, on page 46 ---

Q MR. CHAMBERS; It might save time if we adjourned for a few minutes now and Mr. Hill could do that during the adjournment?

MR. CHAIRMAN: We will be adjourning shortly anyway. Then you will have to read it out so we can mark our copies.

MR. CHAMBERS: Yes, but I think if he checked it over in the meantime.

THE WITNESS: I will read it off.

THE CHAIRMAN: All right, then we will adjourn for fifteen minutes.

(A short adjournment was here taken)

THE WITNESS: (After adjournment) I find that, of the total/the new valuations of the gas purifying plant is $685,712.

Q MR. STEER: Is that the Seaboard Plant?

A This is the whole thing, I am going to give you the whole thing first and then I will split it.

Q THE CHAIRMAN: Would you repeat that again?

A I find that of the valuation for the scrubbing plant it is $685,712 new and $497,068 depreciated, approximately. I could get it for you accurately but approximately $335,850 represents the equipment which is Seaboard Plant only, $335,850 and $177, 597 depreciated, so that you have for the Girbotol Plant and those parts of the construction which was originally built for Seaboard but is now used for both, so I took it fifty-fifty on it. You would have $350,000 approximately for the Girbotol on the new side of the valuation and $320,000 on the depreciated side. That makes no split of the five towers. It is assumed that all five towers are ascribable to the Girbotol Plant. Actually at the present time three of the towers are used with the Girbotol solution, with Seaboard solution rather, and two with Girbotol solution.

You will note that I have depreciated the Seaboard equipment about 50%, as I said earlier in my testimony, and it left the Girbotol equipment at approximately 95% condition, because it is practically new.

Q THE CHAIRMAN: Is that 50%, Mr. Hill, after having added the 25%?

A Yes. You see I am reproducing my plant at the 1943 prices, which is approximately 25% higher than the levels prevailing in the Company's books. I revised my appraisals by 1.22 or something like that, leaving out the fraction, getting at

what the Plant was shown on the books because the advances in price warranted that addition.

Now I will be glad to take a little more time on this job between now and tomorrow and get this a little bit better but that is approximately, that is about as close as I can get it or as I could get it in the ten or fifteen minutes.

The next account is steam plant ---

MR. STEER: Now Mr. Chairman, I think what I would require and I am going to ask for it, is that Mr. Hill go over these items on pages 46 to 54 and take each one of those items and identify it belonging either to the Girbotol or the Seaboard Plants.

THE WITNESS: All right.

THE CHAIRMAN: You will do that?

A I can do that. Do it now, now do you mean.

Q THE CHAIRMAN: You might as well if you can Mr. Hill?

A Yes. On page 46, the first item, engine and pump house, that is Seaboard.

The next item, Fan House, that is fifty-fifty. In other words it is used for both the Seaboard and the Girbotol because the fans remove the sulphur vapors from both plants, so I have assigned that as fifty-fifty.

Q MR. CHAMBERS: Mr. Hill, I wonder for the purposes of identifying the items if you could call them by item No.I and item No.2?

A I can give the name of it. Item No.I is the Engine and Pump House, that is strictly Seaboard.

Item No.2 Fan House is fifty-fifty.

Item No.3 Soda Ash Storage House, Seaboard.

Item No.4, Scrubber Building. That at present is used for both, and it will be required no matter what system was used, so if you are going to split it now you can say fifty-fifty.

Q THE CHAIRMAN: You didn't?

A No, I didn't. I said that in my $325,000 I had assumed the scrubbers as all Girbotol but they are now partly used for Seaboard solution.

The Sump Pits are all Seaboard.

(Go to page 1569)

Q MR. HARVIE: That will be Item 5?

A Yes, that will be Item 5 on page 45.

THE CHAIRMAN: There is one item, the Pipe and Fittings and so on?

A That is the entire job, I might say, of the scrubber plant and the compressor stations. That is where I put the whole thing in for the entire operations. I would not know how to assign any part of that to the Seaboard, because it would be all there, substantially all, whether the Seaboard plant was there or not. I am willing to assign $500.00 to the Seaboard.

Q DR. BOOMER: That item there covers all the plants?

A Yes, that covers all the plants.

Q That covers all the plants?

A Yes, that covers all the plants, and includes the Valley Pipe Line. The scrubber towers on page 47, the first item, 3 scrubber towers, Foster-Wheeler Company, one of those towers is used at the present time for Seaboard solution and two for Girbotol, and the Chimney trays are entirely on Girbotol.

Q MR. CHAMBERS: Are you splitting 6?

A I did not get you?

Q How do you split that item? Item 6, between the two, the three scrubber towers, take two-thirds?

A Yes, you would have to take two-thirds of the $51,750 as Girbotol and one-third as Seaboard. Item 7.

Q DR. BOOMER: These three scrubber towers, one to Seaboard and two to Girbotol? The two Girbotol are new towers, or were they old Seaboard towers?

A The towers were all installed for Seaboard solution and were converted. The himney trays are entirely

Girbotol.

Q MR. CHAMBERS: That is Item 7?

A Yes, Item 7. The two Alco Products scrubber towers, Item 8, are now used entirely on Girbotol solution. The next item 9, the installation of those towers, $15,000.00 of that at present is Seaboard, and $10.000.00 Girbotol.

Q Mr. Hill, pardon me for interjecting. Item 8, two scrubber towers, you say they are now entirely used for Girbotol?

A Entirely for Seaboard. The two scrubber towers on the Girbotol are two of the Foster-Wheeler towers. The Actifiers, item 9, they are entirely on Seaboard except that the stacks and the ducts are used for both and it would be necessary for the Seaboard plant, if the Seaboard plant was not there, either they or their equivalent would have to be there. I would say that of the Actifiers, $73,000.00 new and $29,000.00 depreciated possibly, $29,200.00, is assignable to the Seaboard, and $5000.00 and$2000.00 assignable to the Girbotol.

Q I wonder if you would mind readint ahat again? The Actifiers?

A TheActifiers, $73,000.00 assignable to Seaboard and $5000.00 to the Girhotol. And the depreciated is $29.200.00 assignable to Seaboard and $2000.00 to Girbotol. The installation of those Actifiers....

Q MR.HARVIE: Item 11?

A Item 11.

Q MR.CHAMBERS: On page?

A 48.

Q 48?

A Yes. On the new side $22,000.00 to Seaboard and $2000.00 toGirbotol. On the depreciated side $8800.00 to Seaboard and $800.00 to Girbotol. Everything else on that page, page 48, is Girbotol.

Q MR. STEER: Would you give me that first item there, the installations?

A $22,000.00 to Seaboard and $2000.00 to Girbotol, and $8800.00 to Seaboard on the other side, on the depreciated side.

Q MR. CHAMBERS: And the rest on that page we will call Item 12, that is all Girbotol?

A Yes, that is all Girbotol. On Page 49 it is all Girbotol.

Q We will call that Item 13 then.

A Item 13.

Q MR. HARVIE: That is all new?

A Pardon?

DR.BOOMER: That is all new?

A New or substantially so. Some of it was taken from some other plants, one of the other stations. It is allGirbotol. It is all used in that building. Page 50, that is all Girbotol.

Q MR. CHAMBERS: Item 14, Mr. Hill?

A Yes, Item 14. Page 51.

Q MR. HARVIE: What was 50?

A All Girbotol. Page 51, the first two items, the first three items on Page 51, that is the two turbine pumps and the one small steam pump, and the intallations are all Girbotols.

Q MR. CHAMBERS: We will call that Item 15, the first three items on Page 51?

A Yes. The next item on Page 51, the two vertical triplex pumps, are Seaboard.

Q That includes the installation?

A Yes, that includes the installation, $18,500.00. $15,600.00 was Seaboard. The same is true with the six pumps at the bottom of Page 51.

Q That is Seaboard?

A That is all Seaboard. And the installation at the top of Page 52 is likewise all Seaboard. The nine Gas Engines 80 horsepower horizontal, and the installations, eight of them are used entirely on Seaboard and one drives the fans. I have assigned one of those engines to Girbotol, and eight to Seaboard, together with their installations. That works out at $51,200.00 for Seaboard on the engines, and $5450.00 on the installations. And on the depreciated side $30,730.00 for Seaboard on the engines, and $3,260.00 on installations. The next two pump items are on Girbotol, two small pump items. The fan drive is necessary with either plant, because the fans, a number of the fans, at least three of the fans, it would be necessary for the Girbotol installation.

Q Did you assign that?

A I assigned that fan drive, in my calculations I made during the recess, to Girbotol because it is pretty hard to split it. You would have to have a fan drive in any event, so that for the present I have not made any allocation of that fan drive. Five fans, at the bottom of the page, 2 fans to Seaboard and 3 fans to Girbotol. That is $1650.00 on the new side to Seaboard, and $660.00 on the depreciated side. On the top of Page 53, we have five motors in two items. Of those five motors, two are

definitely Seaboard and three Girbotol. I have assigned $1050.00 to Seaboard on the new side and $735.00 on the depreciated side. I think that everything else on that page is assignable to the Girbotol plant, or else its equivalent dollar value would be necessary with the Girbotol plant. The breeching would not be as at present designed, but substantially so. On Page 54, Pipe and Fittings, in the Seaboard plant, I could not say without making a detailed analysis of that system how much of that is directly necessary for Seaboard and how much is used for the delivery of the gas from both plants, but I have taken the entire dollar value and assigned it to Seaboard, which is probably not warranted without further study.

Q Which item is that?

A I have taken the entire Seaboard pipe and fittings, $57,500.00 new and $46,000.00 depreciated, and put it on the Seaboard plant.

Q MR. HARVIE: What page are you speaking of?

A 54. And now I have $17,000.00 valuation for construction equipment charges and transportation costs, and that is a fifty-fifty split. I can take some time this afternoon and work it out in the form of a little exhibit, and have it in the morning, so that you can see exactly what the thing amounts to, and I will be glad to do that.

Q DR. BOOMER: I notice you do not depreciate the glycol and M.E.A. at all?

A That was put in there initially. It might be there now or not, I do not know. It was required and charged that way, and when you are buying that plant it is part of

your purchase price.

Q Yes. I am curious whether it is still there or not?

A I could not tell you whether it is still there or not. It was there when the plant was put up.

The next item is Steam plant, if I can go to that now. You will note that I have written these 6 old horizontal return tubular boilers down to a present condition of 40%. They are there and they are working, and they are intended to work furnishing low pressure steam and they will keep that service up for a number of years, I have estimated 10 years from November 1943. The high pressure boilers are in first class condition and I think are good for the life of the field. They are periodically inspected and are very highly rates by the Alberta Boiler Inspector.

There is nothing more to be said about this account. The remainder of the account is mostly pumps, tanks and meters. On the last page of the account, Page 61, I have included the overhead line, steam and boiler return.

The next item on Page 62 is the Power Plant. That is a modern gas engine-driven power plant adapted for this service, and I think it is a substantially, it has a remaining life substantially as good as that of the field. The life of any internal combustion engine is dependent on the load it has to carry and the care it has. In my judgment the engines will last 25 to 30 years if they are not overloaded, and they give them the same sort of care in the future as they have had in the past. As the load increases it will undoubtedly be

necessary to instal additional equipment, because, at least every time I have seen them in the near past, they are all running, and the load is growing apparently on those units, so I expect that within the next two or three years there willbe a fifth unit added. I have also included on Page 65, Power and Lighting Circuits from the Plant Yard, and the number of compressors. The next account is on Page 67 and is Meters. This account includes 23 Orifice Meters installed at the gas wells on the gas cap. In my Supplementary Report I have added a numner of other meters which were not included in the inventory which was given to me at the time I made my valuation, which meters are at the so-called oil wells, but measured the gas that comes from those wells. Those were omitted in the first inventory, but were supplied as soon as the omission was caught. I will go into that when I go to my supplementary valuation.

The next account on Page 68 is Automotive Equipment, and includes four automobiles and four trucks and a fire engine. The automobiles were for the most part 1942 models, and the same applies to the smaller trucks. The fire engine was new in 1939, but has been used very slightly, and has a very high residual value. It is not used enough to hurt it. I saw a lot of that equipment.

Miscellaneous Structures on Page 69 includes a small building, a garage and shed, an office and laboratory building, and there is a fire house and a warehouse. On Page 70 we have the Miscellaneous Equipment, including 2 large Gas Hydrate Traps at the point where the gas discharge lines join with the system of the Calgary Gas Company. Those are used to prevent any accumulation of water

getting into the Gas Company's lines.

The rest of the account comprises minor items such as pumps and so forth. Page 71 is a small account of furniture and fixtures and the last page is a map of the system showing its extent. You will notice the field is a long narrow field.

Q MR. CHAMBERS: Mr. Hill, the map is not reproduced in the copies that have been distribtuted.

A Oh, I see. That is too bad.

Q I think it is attached to some other document which has been filed.

A The comment I have to make on the system is it is designed to fit the field. The field is a long narrow field.

MR. CHAMBERS: Oh, the map is attached to M-8 which has not been filed but which has been distributed.

THE CHAIRMAN : Yes, that is one of Mr. Stevens-Guille's books. There is a map in that.

MR. CHAMBERS: That is substantially the same as the one Mr. Hill had.

MR. STEVENS-GUILLE: It is not an exact copy, Sir.

A I want to say that the field is a long narrow field and naturally requires a bigger system to gather the gas from it than if it were of a different shape.

Now I made this valuation in 1943 and during the interval between that time and February 1945 the company's staff went over it and checked the inventory against the property which actually was turned over by the Natural Gas Division of the Royalite to the Madison Natural Gas Company and they found a number of discrepancies. I have corrected those in a supplement to my valuation dated March 1945, which I prepared in Calgary during the first week in March of this

year. I will read it.

SUPPLEMENTARY APPRAISAL REPORT OF NATURAL GAS DIVISION OF ROYALITE OIL COMPANY LIMITED, filed by Edgar G. Hill, NOW MARKED EXHIBIT 60.

It is dated at Calgary, Alberta. March 5th, 1945, addressed to the Madison Natural Gas Company Limited, Calgary, Alberta, Canada.

Dear Sirs:

As requested, we have prepared and submit herewith a supplement to our report dated January 15th, 1945, addressed to Royalite Oil Company, Limited, which included a valuation of the Natural Gas Division of Royalite, which Division has now become the property of your Company.

The supplement results from the work done by your staff, since the preparation of the report, in revising the inventory of transferred property which we used in preparing the valuation, and from the discovery of a few errors in pricing inventory items. The valuation of the physical property which has resulted from the revision of the inventory and from the correction of the pricing errors, is as follows: This is physical property only.

Reproduction Cost New	$2,614,102
Reproduction Cost New Less Depreciation	$2,137,964

No change has been made in the allowance for working capital and in the estimate of Going Value.

Yours very truly,

Edgar G. Hill,

Vice President.

On page 1 of the supplement is shown a summary of the additions to the valuation, including the same classifi-

cation of accounts that was used in the case of the valuation itself. It shows an addition of $45,886 new and $40,260 depreciated, to the valuation of the physical property which I made in November 1943. Now it goes on and shows the details . . . . .

Q DR. BOOMER: I do not understand the 4th item Gas Purifying Plant.

A I left out a big heater.

Q No, you say new, $4,116 and depreciated $6,725.

A You will find the detail of that, that happened because of the . . . . . well I will describe that when I come to it. It is described in detail. That is the way it adds up. There were no changes in land or rights of way. The gas gathering system, there were a number of pumps and tanks added which were not included in the inventory which was given me in 1943 and the location of those items is shown on page 2. Although I did not see all of it I saw a number of them so I accounted that they existed. The next item, heaters and boilers, on page 28. There was an error in describing one boiler. The horsepower was stated as slightly higher than it was and I was corrected. It reduced that item by $300 new and $120 depreciated. Compressor Stations Inventory. Since my appraisal was made a pressure recorder was added to the inventory, a recording gauge and a pump was added. And that pump existed at the time of my appraisal but was not at that time included in the inventory of the properties to be transferred but has since been transferred. It is needed at the No. 1 Compressor station for water supply. There were flow meters and connections which were shown in the inventory which were not transferred, on page 36 of the report, and I regret to say I made an error in pricing the flow meters which was corrected by or called to

my attention by the company. I made the correction which adds $550 to the inventory. So we have a net addition to Compressor Station No. 1 of $1190 new and $1071 depreciated.

Now when I was at Station No. 3 it was not completed and there were a number of items which I did not include in my inventory which the company furnished there and they existed there. I saw them all in March of this year. I have included them in the inventory and priced them which added to Compressor Station No. 3 $19,603 new and $16,050 depreciated.

Then the Gas Purifying Plant on pages 46 to 54. There were a number of items which were not included in the inventory given to me in 1943 and which should have been included. They are mostly small things except there was omitted a number of flow meters and a glycol conditioning still which was being made at the shop when I was at the plant but was not installed. A Fuel Dehydrator to which the same remarks apply and I can blame myself for omitting from the valuation a re-boiler element that was part of the reactivator, which was up under the roof that I did not see. My attention was called to that also and I corrected it. Now there is a deduction at the Girbotol plant in the matter of royalties. When I put in my appraisal the cash which the company paid and the advance royalty payment, I did not correct it right to Canadian funds. They paid $25,000 United States money which is $27,750 Canadian funds. Then I found out or I was told later that the Company did not pay that $25,000 in one piece but paid $4012.08 a year for two years and then paid the balance. So I made the necessary corrections and by deducting $7,734 from the new side valuation and $5,534 from the deprec-

iated side. I also found that parts of piping and fittings in the Seaboard Plant which were shown on the books to exist at the time I made my valuation and which I assumed existed had been removed and the book account reduced. I made that correction which reduced the valuation on the new side $11,991 and on the depreciated side $9.592. When I made this appraisal I used the net book value for piping and fittings at the Seaboard plant because there were no drawings of the piping and fittings and it would have been a very difficult job for me to have done more than guess at what they were. So in the absence of information I used the net book cost and increased it 25 per cent. The net book cost was not correct and has now been corrected so when we come to make our separation between the Seaboard Plant and the Girbotol Plant you will have to take that $11,991 into account because I have too much money in the valuation for it before. Another item on page 8 of the submission, it was purely my fault. I valued a scrubber tank at $100 which I do not think I could have seen although I knew where it was. I cannot account for the error. The fact is the actual cost in California, it was bought in California and came from there, was $850.35 in 1937 and its installation, foundation and piping cost $681 or a total of $1,531. I had appraised that at $100. I have charged that directly to myself. I have increased the 1943 cost by 25 per cent because I think today that tank would cost 25 per cent more than it cost in 1937. I reduced that amount by $100 that I had in my original appraisal and I have an addition of $1814 on the new side and $1451 on the depreciated side. The other items are small mechanical items which were not included in the original inventory.

The Power Plant, there were seven transformers not included in the original inventory. I have now included them. The next item is meters. There were 15 meters at the oil wells which measured the gas which was taken into the Gas Company system from those wells which were not included in the original inventory and which I have now included at $400 apiece, including the setting. Miscellaneous equipment on page 70, there were a number of small items which were not included in the original inventory which I did not see as in 1943 which should have been there and have now been included in the price. Mostly fire extinguishing equipment. I think I saw most of those items last month. Page 71, furniture and fixtures. There is a safe and an office desk added and a typewriter taken out. I saw the safe and the office desk. I believe that is the story.

Q MR. CHAMBERS: Mr. Hill, just to summarize the change in the figures of Exhibit 59 by reason of the supplementary report Exhibit 60. Turn to page 22 of Exhibit 59. You have a total there, new, undepreciated of the physical plant of $2,568,216.

A That is right.

Q As I understand, you add to that by Exhibit 60 on page 1, $45,886.

A That is correct.

Q And that gives you a total cost new, undepreciated, of $2,614,102.

A Correct.

Q Then you have under the Less Depreciation column for the total, $2,097,704 on page 22 of Exhibit 59 and you add to that $40,260 which is the total of the column on page 1 of

Exhibit 60, is that right?

A That is right.

Q And you now have $2,137,964.

A That is right.

Q Which are the two figures mentioned in your letter forming part of Exhibit 60. That is right?

A That is right.

THE CHAIRMAN: Then, Mr. Chambers, to reconcile the whole thing you add to those figures the estimated working capital and an estimate for the going value?

MR. CHAMBERS: Yes.

THE CHAIRMAN: And we will get the total of all.

Q MR. CHAMBERS: By adding the adjusting figures on Exhibit 60 to the totals on page 22 of Exhibit 59 instead of $2,958,216 you have $3,004,102, is that right?

A That is right, yes.

Q And then on the other total under Less Depreciation column on page 22 of Exhibit 59, a total of $2,487,704 you add to that $40,260 and it gives you the depreciated total of $2,527,964.

THE CHAIRMAN: Correct.

Q MR. CHAMBERS: Let me direct your attention now to page 6 of Exhibit 59, your original report on the top of the page. You say there: "The inventories, and consequently the valuation, include a number of work orders which were under construction on November 15th, 1943 but were in such an advanced stage of construction as to practically insure completion by December 31st, 1943. These have been included at estimated cost when completed." Now how does that tie in to your supplementary report, Exhibit 60.

A The only place that that applies is to Compressor Station No. 3

where there was equipment added that I did not see. It was not there when I was there in November but it was added in 1943 or early in 1944 and has been included in my supplementary valuation.

Q Yes, that is on pages 4 to 6 of Exhibit 60.

A That is the only substantial amount of dollars which it has been necessary to add on account of the fact I appraised that No. 3 station before it was finished.

Q And the figures on pages 4 to 6 of Exhibit 60 which deals with the No. 3 Compressor Station as I understand it are the actual cost figures and not an appraisal.

A That is my figures in the original report?

Q No, on pages 4 to 6 of your supplementary report dealing with Compressor Station No. 3.

A They are not in all cases the actual cost but on the larger items which were company made such as the desulphurization plant for station fuel, that was the company's cost record of that little plant which they made themselves and the Girbotol plant which they built for fuel for the gas engines. The others are my estimates of the cost except at page 41, I omitted the price of an auto starter for the air compressor and that is what it actually cost in 1943, $112. I think that the electrical connections from auxiliary building to dwellings, boilerhouse and garage, which I have at $550 are substantially what the job cost.

(Go to page 1584.)

I will say that on Page 43 when I show that cooling tower, cooling water tower, it was not erected in 1943 and I made an estimate of what it would cost, even although it was not actually there, so I added that.

The switch board was not in place when I was out there in 1943, but was in place a month or so later.

Q That is all, Mr. Hill, in connection with that compressor station No. 3 that you want to say?

A Yes.

Q Well now will you turn to your main report, which is Exhibit 59, I notice on Page 8, that first paragraph on that page, "Observed Deterioration" and then on page 15 you talk about, you head your page " Recommended Basis for Calculating Annual Amortization of Capital." And then you say:

> "As is discussed previously in this report in the paragraphs dealing with Accrued Depreciation, most of the physical property of the Natural Gas Division has a life expectancy of 25 years or more at this time, which in the case of a manufacturing establishment would indicate a proper annual charge for depreciation of not over 4 per cent."

Now you say in the paragraph"dealing with accrued depreciation" and as I recall going through that report, that is the first time I ran into that term "Accrued Depreciation", would you just tell us what you mean by that?

A I should have said there "Observed Deterioration",that is not a correct statement on Page 15. Those two words "Accrued Depreciation" should have been "Observed Deterioration".

Q Now on the amount that you deducted, - let us put it that way, - for depreciation, what do you call that, "Observed"

or "Accrued" or how do you describe it, explain what system you have used.

A It is the accrued depreciation, call it that.

Q And arrived at by the observation of the physical plant?

A Yes, it was arrived at by observation of the physical plant. I saw everything I could on the outside and examined the records of the inspections which disclosed the condition of the inside and I examined the pipe lines and on that examination, from that examination, I formed an opinion as to what the probable future life expectancy was.

Q And then you arrived at, and I am leaving out now the working capital, at a figure which you say is the estimated reproduction cost now, depreciated to $2,137,964.00; now as I gather from your report that that is what you say the present value of the physical plant is,assembled?

A That is right, that takes into account the original report and the supplement.

Q Now assuming that you were acting for a client who wanted to sell or to buy, would this be the figure which you would recommend?

A No, I would expect to get more than that.

Q Well why?

A Because I think the property is worth more than that.

Q THE CHAIRMAN: In what sense do you use the word "Worth"?

A Well the value.

Q Intrinsic value?

A Intrinsic value, between a willing buyer and a willing seller.

Q Used value?

A Used value, yes, I consider that the property in use is worth more than the added depreciated reproduction costs of the various elements that make it up.

MR. CHAMBERS: I have nothing further to ask Mr. Hill in connection with this report except this, there is another matter, - if it pleases the Board, - that I may want to examine Mr. Hill on before he goes. It has nothing to do with the valuation of the property but he just got in yesterday and I did not have a chance to discuss it with him but I would like to have it known that I might want to examine Mr. Hill on another matter.

THE CHAIRMAN: Yes.

MR. CHAMBERS: Thank you.

THE CHAIRMAN: Mr. Fenerty.

MR. FENERTY: I may have a few questions at this stage, but I would like to have this fact understood, that if I do not cross-examine on some points it is no indication that I am prepared to accept the figures or the bases advanced by the witness but I do know that there are some points that I am interested in, that other Counsel are prepared to go into at some length and I am trying to avoid any duplication.

THE CHAIRMAN: Mr. Fenerty, this aspect of the case is so important and I am not going to attempt to limit anyone in the extent or the length of the cross-examination. You have carte blanche to go as far as you like.

MR. FENERTY: There might be something arising out of other examinations that I might want to ask some further questions on afterwards but at the moment I will ask these.

CROSS-EXAMINATION BY MR. FENERTY.

Q Mr. Hill, I would like to go to this question which you deal with on Page 20, going back to Pages 19 and 20, and I would like to work backward from the bottom of Page 20. I find that you come to the conclusions, for the reasons previously

advanced that the value as a going concern of the property is greater than "The sum arrived at by adding together the depreciated reproduction costs of its various elements, by at least $200,000.00",

And in the paragraph immediately above that you show one of the items which you have considered:

"It is very often the case that engineering and construction mistakes are made by new concerns which lack experience in the business, which mistakes are expensive to rectify, or if not rectified, cause increased operating expenses. No such mistakes have occurred in the construction of this Company's property."

And you have elaborated on the fact that they have had the benefit of this valuable experience of the Royalite or the Imperial engineers?

A Yes.

Q So that my understanding of your report is that part of that item of $200,000.00 is a charge you have made for the fact that mistakes have not been made, that is right, is it not?

A In effect, yes. I say that on account of the fact that this Company has had the benefit of experience and advice and has not made any mistakes.

Q In plain laymen's language, to get away from legal language and engineering, you have increased the value of this by the absence of mistakes?

THE CHAIRMAN: A premium for efficiency?

WITNESS: Yes, a premium for efficiency.

Q MR. FENERTY: Now Mr. Hill, that means then that you have attached an added value to this plant of some $200,000.00

by reason of the severance of the interests of the Royalite and the Madison Companies?

A The interests generally, not severed. The joint interest has not been severed. There is no discontinuance of these services in the future. They existed in the past and they will exist.

Q But as a public utility practice, if you acquire a wholly owned subsidiary, you will increase, - in this case you increase the valuation by $200,000.00 because it is a wholly owned subsidiary, as a separate, corporate, legal entity, is that not right?

A No, I did not do it because it is a separate corporate entity. If the Royalite proposed to sell its gas division to John Doe, before this Act was passed, I would still advise it not to sell for the sum of the depreciated reproduction cost. The value still is there because it has had the benefit of this experience in the past.

Q Now let us pursue that a little further, let us say there had been no severance and you were called on to make a valuation, would you have included this item of $200,000.00 in a valuation of the Royalite plant?

A That is a part --

Q Would you have included it, just give me that answer first and we will come to the other later.

MR. CHAMBERS: I submit he should be allowed to finish his answer.

Q MR. FENERTY: Let him give me the answer to that first.

A Let me have the question again please.

Q MR. FENERTY: If you were valuing this plant as a Royalite plant would we have this item of $200,000.00 coming into your estimate?

A Well I would say that you might or you might not. If I was

valuing it for sale, yes.

Q Well if you are valuing it for utility purposes, public utility?

A Yes.

Q You would have it in there?

A Yes.

Q All right, let us follow that a little further, part of that is made up of failure to make mistakes?

A Part of it, yes, efficiency.

Q Part of this $200,000.00 is made up of failure to make mistakes. Then in valuing it for utility purposes you would say because Royalite had not made mistakes you would include a figure?

A I would what?

Q You say that Royalite has not made mistakes because they have had experience?

A Yes.

Q But for purposes of valuation you would include a figure as though they had made mistakes, are you?

A I would say ---

Q Is that what you have done?

MR. CHAMBERS: Let him answer the question.

MR. FENERTY: I want my question answered. I want a direct answer.

MR. CHAMBERS: He had just started when you interrupted him.

MR. FENERTY: I am going to submit this, there is no special privilege granted to a Madison or Royalite official not to give a direct answer to a question.

WITNESS: I was going to answer the question.

THE CHAIRMAN: Read the question.

MR. FENERTY: I am entitled to a direct answer to the question.

A You are and you will get it.

Q (Reporter reading) "Q You say that Royalite has not made mistakes because they have had experience? A Yes. Q But for purposes of valuation you would include a figure as though they had made mistakes, are you? A I would say -- Q Is that what you have done."

MR. CHAMBERS: And the witness started to say "I would say", when you headed him off.

WITNESS: In effect "Yes", the answer to that question is "Yes".

Q MR. FENERTY: Yes, you have answered yes.

MR. CHAMBERS: He does not have to answer "Yes" or "No" unless he wants to.

THE CHAIRMAN: Mr. Chambers, I think in cross-examination a witness should just answer directly, in cross-examination just as he does in direct examination.

MR. FENERTY: My friend will realize, whether it is my fault or somebody else's, I spent some time getting a direct answer, but immediately after on re-examination my friend had no difficulty in getting a "Yes" or "No", and I want the same kind of an answer on cross-examination that we get on direct examination.

THE CHAIRMAN: We always have that experience, all of us, it more or less applies generally. However, I am quite satisfied for you to keep on trying until you get it.

Q MR. FENERTY: Now just pursuing this a little further,- so that your system of valuation is if mistakes have not been

made you will charge as though they have been made, is that right, is it?

A To a certain extent that is correct.

Q That is correct?

A That is correct, in other words I would expect, if I were to come into this property or come into any property which was not built with the same degree of engineering skill that this one had been built with, to find certain mistakes by which costs would be increased. I did not find those mistakes and I put some of the savings due to those mistakes not having been made, into my going value.

Q Then I take it your theory is that if engineering and technical mistakes are made, they should be paid for by the public or at least by some one other than the people who make them?

A Well I have not said that.

Q That is the result, is it not?

A No. I think what I have tried to say is this, that where a property has had first class engineering advice or knowledge and has not shown anything in its costs for that advice, it is entitled to something for that if it is sold or if it is turned over to the State to supervise as a utility and its rates based on its capital.

Q Now is this a special theory relating to public utility, - you would not figure that in the ordinary business world, would you?

A Oh, in the ordinary business world you certainly would, that is if you are selling a property which is not subject to regulation, you certainly would not sell it for the sum of its, for its physical value, if it were an outstandingly well built property.

Q Yes, but just coming right down to brass tacks, your theory of valuation is that if a public utility makes a mistake in some kind of engineering work or anything else, the public is going to pay for it, that is your answer in plain language, is it not?

MR. CHAMBERS: You are making a statement and not asking a question.

THE CHAIRMAN: He put it in the form of a statement and then he asked "is that what you are saying".

Q MR. FENERTY Yes, is that what you are saying?

A No, I am not saying that. I am saying the converse of it but I am not, I do not say that where a mistake had been made that made the property cost more or cost more to operate, that the public should pay for it. I have not said that.

Q I got that impression?

A I said the converse. I say where they have not been made, the owners should get some reward for the increased skill and the public should not get the benefit of it all.

Q Now just a minute, you had two hundred thousand dollars which you have included in the valuation because I assume you think that that is part of the total which should be returned to the Madison Company, do you not?

A I think that that two hundred thousand dollars is a part of the value of that property and I get part of that two hundred thousand dollars from the fact that the Company's Plant has been successfully built and put together and can be economically operated.

Q And in making the physical valuation of the assets, you first of all make a physical valuation and then you add something because of the fact that those assets are used in certain

things?

A No. I made a valuation of the physical assets and it added up to a little over two million dollars, that is the valuation of the physical assets and then I made a valuation of the going value of the Company and added that to the physical assets. The physical assets were separate from the going value.

Q Now let us take another picture of it for a moment, if I understand the valuation item by item, you have taken the replacement costs of various items and your depreciation?

A Yes.

Q And so on?

A Yes.

Q And it appeared to me purely as a layman, of course subject to correction, that this plant, taking it as a completed plant is to a certain extent somewhat of a miscellaneous collection, you have some high pressure boilers, you have low pressure boilers and you have some mud hogs, doing work of other pressure pumps?

A That is right, the low pressure boilers, the Company fortunately had those boilers, they used them, they used them for drilling oil wells in the field years ago --

Q I am not critizing that but I am just giving you some illustrations of what you have, you have some boilers and a heating plant there operating at 20 pounds --?

A That is right.

Q I do not know whether that is sufficient?

A That is a proper pressure to operate it.

Q But the result is you have a plant made up of some old units, and some new units?

A Yes.

Q And some shall I say "compromise" units which are used for a purpose other than for what they were designed?

A That ---

Q First of all, you have that?

A I have that, yes, but it does not detract in any way from the efficiency of the plant.

Q Now that is the question I was going to ask you?

A If I did not have, -- if the company did not have these old drilling boilers they would have had to go out and buy new ones at a higher price. Luckily they had these old boilers and they put them to work and I appraised them at a very low figure.

Q But I think if you will give me answer to my question first, first of all you have them?

A I have them.

Q Then I want to follow your trend of thought and you can tell me whether there is anything in it, - now what I want to know from you is whether you have given any consideration in the valuation of the resulting product, that is the conglomeration of units which you have as the completed plant, did you give any consideration to its value as a plant, --- what I am getting at is this, I surmise you might have a position where you had purchased a number of units, some of which might be substitutes for what you wanted and some might be, involving a little different system of operation, and that as an operating plant it would not have the value of what you paid for its component parts, in other words it would do the work but it would not be the plant you would start with, is there

anything like that?

A No there is not.

Q That is what I wanted?

A No, there is not. There are cases, which you have mentioned, where the Company had for instance a drilling, -- in the drilling business had equipment which it was able to use efficiently in the plant and did use it, and I do not know of any exception, where I would have done differently had I been in the Company's position.

Q That is a fair statement, so that this is an efficient operation?

A I consider it such, yes.

Q Now there is just one other question I want to ask you. You made a reference to the cost of the construction of the plant over a period of a year, and then you gave certain general over-head costs?

A Yes.

Q But would the period of a year which you would take, affect the cost, or was that merely a period for the purpose of computing your over-head?

A That was merely for the purpose of, - well the period of a year did reduce my pipe line cost. It did not increase anything.

Q It did not increase them because it had to be done in a year?

A Oh no. I tried to explain that, that I did not take into account the additional labour cost due to paying overtime.

Q But apart from that, you were simply figuring your over-head over say a year?

A For a year because I think the plant can be built in a proper fashion in a year's time.

MR. FENERTY: Thank you.

CROSS-EXAMINATION BY MR. STEER

Q Your approach to this problem, Mr. Hill, in the first place was that it was a desirable thing to do to reproduce this plant?

A Well I was asked to appraise the plant as it existed.

Q Yes?

A I did so to the best of my ability. I do not know of any part of the plant that should be built differently today, except possibly the Girbotol plant of course, has superseded the old Seaboard type of plant, the boilerhouse, and this is a workmanlike job considering the fact that the Company has used those high pressure boilers that were available and they were in good shape, and they should have been used or were used.

Q The high pressure boilers?

A Yes, the high pressure boilers. The low pressure boilers of course are working on a very low steam pressure doing the job, the horizontal tubular boilers, and they are generating steam as required and doing the work.

Q What I had in mind in that question I asked you, is your proposition that if you were applying it on the sale of this property you would want more money for it than the amount at which you valued it? That was your statement, as I understand it?

A Yes, I would want more money for it than the sum of the depreciated values of the component parts.

Q I suppose it is elementary that its value must depend on what it is capable of earning?

A Yes, it is elementary.

Q And in considering what it was capable of earning I suppose

you gave consideration to the market?

A I did.

Q And to the rates at which this product could be sold?

A I did not know what those rates were.

Q But you assumed, you must have assumed something about that?

A No, I did not make any calculation of earnings at all.

Q Well then, if you make no calculation of earnings, I wonder how you could advise either the sale or the purchase at this large sum of money?

A Well the rate at which this gas would be sold is to be fixed by this Commission.

Q So that you assume, when you are advising something over three million dollars, as the selling price, you are assuming that this Commission or this Board is going to fix a rate which will give a reasonable return on that value?

A Not on three million dollars.

Q Not on three million dollars?

A No, not on three million dollars.

Q On something more than the depreciated value which you have given here?

A Yes sir.

Q Now that depreciated value was $2,527,000.00?

A Well the depreciated value of the component parts is $2,140,000.00 approximately.

Q Now I have got Page 22 of your report, Mr. Hill. I understood you to say to Mr. Chambers that after all allowances had been made as contained in your 6(a), that is Exhibit 60, the depreciated value of the plant would be $2,527,964.00?

A No, that includes the working capital.

Q What would you reduce it by, one hundred and ninety?

A Yes, one hundred and ninety.

Q And you want a return on one hundred and ninety, do you not?

A Yes, whatever fair amount on the working capital is. I explained my approach to that problem in my testimony.

Q Well, say that the figure if $2,337,964.00?

A That is what I think is a fair value.

Q And what you say is that this Board will fix the rate that will give what you consider to be a reasonable return on that $2,337,964.00 plus what you think ought to be added to it, then you would fix the sale or purchase at that amount?

A Well I do not understand that I said, that I added anything to these figures which I have.

Q Well, my question was.....

A If my testimony is to be interpreted that way, that is not what I meant to give it as.

Q Well I understood you to say that you would not fix the sale of this property even at the amount of your depreciated value, you would want something more for it?

A That is right.

Q That is right?

A That is right.

Q And now then, in saying that perhaps you will put that additional amount on it, would you?

A Pardon?

Q What would the additional amount be?

A $200,000.00, and then there is the going value. I have nothing to add to it.

Q I see. That is included in the $2,337,000.00?

A Yes.

Q And what I am suggesting to you that in giving that advice either to a vendor or a purchaser, you would have to assume that on that amount there was going to be a reasonable rate of return fixed?

A I would.

Q Yes. So that what you have done really is to fix a value on this property such as you think ought to be attributed to it as a public utility?

A That is right.

Q And what you say is that the reproduction cost less the observed depreciation is the value that ought to be placed on public utility property?

A I think that is a fair share of the value at November 15th, 1943, in the way I value it, because I did not take into account the full reprouduction cost at that date. I did not give effect, the full effect of the war on increased cost.

Q And only to the extent that you referred to it as a consideration, and inefficiency of labour?

A And abnormal overtime.

Q And apart from that you applied costs as increased value?

A Yes, I did.

Q And what percentage would that be?

A I would say that they vary according to the datethat the property was built, but I would say that it was somewhere between 20 and 25 per cent, somewhere in that neighbourhood.

Q As between what dates?

A The date that the property was actually built and November 15th, 1943. You see on the Girbotol plant it was built in

1942 and '3, I did not add anything to that cost.

Q Yes?

A I think my appraised cost is less on compressor station No. 3, but on the boiler plant and the power plant and the Girbotol plant I increased book costs by in the neighbourhood of 25%, 20 to 25%, depending on the item.

Q How much consideration did you give to book cost? Did you examine the book costs of all these items?

A Yes sir.

Q To go back to the point that I discussed in the beginning you were assuming a reasonable rate of return on your valuation, and you also assumed, I suppose, that the Madison Company would have a market for its gas, that is right?

A I did, yes.

Q And you also assumed that Madison would have no difficulty in securing the supply of gas?

A I assumed that.

Q Then you considered prices of the materials that would be necessary to reproduce this whole system, is that right?

A That is right.

Q And I understood you to say that you would advise the reproduction of the whole system if it had been unfortunately destroyed?

A But I would not rebuild the boiler house as it is, and I would not build the Seaboard plant as it is, of course.

Q What would you do about the gathering line?

A I might possibly make a few changes in those lines, but I do not believe they would be substantial.

Q What changes would you make in the purifying plant?

A If this plant had been entirely destroyed and had to build

it over again?

Q That is right?

A I would use a plant designed similarly to the Girbotol plant which the Company has now, big enough to take care of the entire load requirements with the necessary provisions for spares to permit cleaning and continuous operation at all times.

Q And have you any idea at what cost that could be done?

A Yes.

Q What would be your estimate?

A I have it here. About $121,000.00, that is the additional to the present Girbotol plant it would take to give a proper spare equipment.

Q I would ask you, I think, to give us the particulars of that, Mr. Hill, have you got them here?

A I have that here.

Q Perhaps you will give that to us?

A This is the additional equipment of the present Girbotol plant.

Q MR. CHAMBERS: Can you give me a copy of that so that Mr. Steer can follow it? Have you more than one?

A Yes, I have, Mr.Chambers.

Q MR. STEER: Perhaps you will tell us what arrangements you will make; as I read this, Mr. Hill, I understand that by the expenditure of $110,000.00 on the Girbotol plant, you would have a complete modern unit that would take care of all the demands upon the system and give necessary stand-by capacity. That is right?

A That is right, in addition to what there is now, you understand?

Q Yes, exactly. And I take it that the staff that is presently employed in working the Girbotol plant would be able to work this new plant?

A I would not want to answer that question at the moment. There would be not more than one additional man per shift needed.

Q I see?

A I can answer after I have discussed the matter with the operating people, but I would say that one at the most would be the most that was needed.

Q It is quite clear then that the retention of the old Seaboard plant increases very materially the operating expenses of this plant?

A Well I do not know whether the words "very materially" are correct or not, but I would say that the plant would be a better plant, a more modern plant, with the Seaboard plant out of there and additional Girbotol equipment installed. That is obvious because the Girbotol process is more modern.

Q And would be operated less expensively?

A I cannot answer that question at the moment.

Q Well we will assume that the operating expenses would be considerably reduced, have you taken that fact into consideration in placing your values on this property?

A I consider that the - I say yes, my answer is yes, but I made no arithmetical calculation because I knew that the Seaboard plant was there, was put there in good faith and has done the work which it was designed to do. I have not applied the doctrine of substitute plants to any part of my valuation.

Q You have not applied the doctrine of substitute plants to this?

A No, I have not.

Q You have not?

A No.

Q Assuming that the operating costs of the Seaboard unit are greater, perhaps I had better put it this way, assuming the operating costs of the Seaboard unit plus the Girbotol unit as it presently exists are much greater than the operating costs of this Girbotol plant to which we have just referred, this modern up-to-date plant, capable of taking care of the whole situation, do you not think that you should not have considered those increased operating costs when you were valuing the Seaboard?

A I do not think so, no, not on a reproduction cost estimate.

Q Well, leaving the reproduction costs estimate out of consideration for the moment, and confining your attention to the valuation of property as a public utility, do you not think that you could have considered it?

A No, I do not think so.

Q Why?

A Because the plant is there and it is functioning in the public service and doing the work for which it was designed.

Q I see. You looked at the original cost of the plant in the books, I think you told me?

A Yes.

Q And you studied the depreciation record of the plant, I suppose?

A Yes.

Q And are you able to tell us to what extent the plant was written off in the books?

A It was substantially written off.

Q Entirely?

A I say substantially, it may be entirely.

Q Yes. Now there are lots of people who, if they adopted your recommendation about this system, would immediately scrap that plant and carry out your suggestion of improving the Girbotol unit, would you say that is right?

A I do not know what they would do.

Q Have you heard of Seaboard units being scrapped for the purpose of installing Girbotol?

A No, I have not, but that does not mean that they have not been.

Q No. Now, you are a good enough engineer, Mr. Hill, to know that that must be done frequently when a unit has become obsolescent and written off on the books, the natural tendency is to replace it by a modern up-to-date unit?

A That depends on the economics of the situation.

Q It is good engineering practice?

A Naturally, when the economics denote replacement, replacement is the thing to do.

Q When would the economics of the situation demand the replacement of such a plant as this, the Seaboard plant?

A When the new expenditure would be recouped out of savings in a relatively short time.

Q That would depend then upon the study of the operating costs?

A That is right.

Q I see. Now then, this valuation that you made, you made on instructions from whom?

A My original request that I come out here was received from

Fred Bimel, I think he is the Chairman of the Board of The Valley Pipe Line. He is in the Toronto office, in the Imperial office, and I have known him for years and he called me on the telephone.

Q That was all?

A All.

Q A telephone call?

A Yes.

Q What did he tell you to do?

A To come out and value the properties of the Gas Division.

Q I see. Had you anything to do at all with picking out the elements of property that you were to value?

A No.

Q Had you anything to do with regard to the severance of the various Royalite properties, at the time you were instructed to make your value, of course all this plant was owned by the Royalite Company?

A All of it, yes.

Q And the Royalite Company was carrying on three different operations, as I understand it, they were operating crude oil wells, they were operating a gasoline absorption plant, and they were operating a scrubbing plant?

A They were acting as a producer of gas and oil, as a collector of natural gas, and a producer of gasoline, and kindred products. They were in three phases, they were in it three-fold you might say.

Q I will ask you this question, had you anything to do with fixing it or discussing with the Royalite people the severance of this Gas Division, as it is called, from the remainder of their business?

A No, I did not advise them on that at all.

Q The Royalite people told you then what it was that they wanted you to value?

A That is correct.

Q And took no advice from you as to whether the properties they asked you to value should be a part of this new system or not?

A No.

THE CHAIRMAN: Would this be a convenient point, Mr. Steer, to adjourn?

MR. STEER: Yes.

THE CHAIRMAN: Adjourn to 9.30 tomorrow.

(At this stage the Hearing was adjourned until 9.30 A.M. April 10th, 1945.)

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